

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 30, 2003

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
J. J. McConnell, Deputy Technical Director  
**FROM:** R. T. Davis/ T. D. Burns  
**SUBJECT:** SRS Report for Week Ending May 30, 2003

Staff members J. Blackman, B. Jones, P. Rizzo (outside expert), and J. Stevenson (outside expert) were on-site this week to review the civil/structural evaluation methodology and acceptance criteria for K-Area Material Storage (KAMS) and Building 235-F. In addition, staff member R. Quirk was on-site reviewing instrumentation and control systems for KAMS, Building 235-F and FB-Line.

**HB-Line:** Last week, WSRC completed a 5 week maintenance outage at HB-Line. On Thursday, operators resumed dissolving operations in phase I. Two cans of Enriched Uranium scrap material were added to the dissolvers on Thursday morning. Control room operators received a high level alarm for the dissolver shortly after the charge. Field operators investigated and observed a yellow smoke in the glovebox. Personnel evacuated the area and the fire department was notified. Temperature in the dissolver reached approximately 110 °C during the transient even though the heater block was not energized. Normal dissolution temperature is approximately 110 °C with the heater block energized. By the time the fire department arrived, the smoke had been evacuated by the glovebox exhaust system and dissolver temperature was dropping.

During the transient, approximately 7 liters of solution escaped the dissolver and subsequently condensed in several gloveboxes in the North dissolving line. Cleanup activities for this material are ongoing in the facility. This particular run was the first that contained significant quantities of aluminum (approximately 52%). Processing activities are on hold while WSRC investigates and develops a path forward.

**Packaging and Stabilization:** WSRC began outer can welding for plutonium metal in April. Approximately 170 cans have been successfully welded to date. WSRC is currently working to resolve issues associated with adequately measuring the inner can lid deflection using the digital radiography system. This measurement is required to meet DOE-STD-3013. For plutonium oxide stabilization, installation of the furnace system is complete. Startup testing and operator training will occur in June. The DOE Readiness Assessment is scheduled for mid-August.

**Tank Inspections:** Ultrasonic inspection of the first Type III waste tank (Tank 32) under the recently finalized WSRC In-Service Inspection Program for High-Level Waste Tanks has been completed. Formal analysis of the data is on-going and a final report is expected by mid-June. Preliminary results do not indicate any significant degradation due to cracks, pitting, or general corrosion. Ultrasonic inspection of the next Type III waste tank (Tank 31) is currently underway and is scheduled to be complete by the end of June.